

WHAT IS CLAIMED IS:

1. A magnetic recording element comprising:

5 a magnetic layer showing an S-shaped magnetization distribution when a strength of a magnetic field applied to said magnetic layer along a hard axis of said magnetic layer is higher than a threshold value and showing a C-shaped magnetization distribution when said strength of said magnetic field applied to said magnetic layer along said hard axis is lower than said threshold value.

10 2. The magnetic recording element according to claim 1, wherein a configuration of said magnetic layer is symmetrical with respect to an axis parallel to said hard axis and asymmetrical with respect to an easy axis of said magnetic layer.

15 3. The magnetic recording element according to claim 2, wherein said configuration of said magnetic layer includes a rounded corner.

4. The magnetic recording element according to claim 2, wherein said configuration of said magnetic layer includes a plurality of straight lines
20 situated in one of opposite sides of said hard axis.

5. The magnetic recording element according to claim 3, wherein said configuration of said magnetic layer includes a plurality of straight lines situated in one of opposite sides of said hard axis.

6. A method of manufacturing a magnetic recording device for manufacturing a magnetic recording element and a first conductor connected to said magnetic recording element, said method comprising the step of:

shaping said magnetic recording element and said first conductor into desired configurations by performing a photolithographic process using a same mask.

7. The method of manufacturing a magnetic storage element according to claim 6, wherein

said first conductor extends along a first direction,

said magnetic recording element includes a magnetic layer with a hard axis parallel to said first direction and an easy axis parallel to a second direction which is perpendicular to said first direction, and

said magnetic layer is shaped by performing a photolithographic process using a first mask and a second mask, said first mask being rectangular and including sides parallel to said first direction and said second direction, respectively, and said second mask being the same as is used in said photolithographic process in said step of shaping said magnetic recording element and said first conductor and including an edge parallel to said second direction.

8. The method of manufacturing a magnetic recording element according to claim 6, wherein

said first conductor extends along a first direction,

said magnetic recording element includes a magnetic layer with a hard axis parallel to said first direction and an easy axis parallel to a second direction which is perpendicular to said first direction, and

said magnetic layer is shaped by performing a photolithographic process using a first mask and a second mask, said first mask being rectangular and including sides parallel to said first direction and said second direction, respectively, and said second mask being the same as is used in said photolithographic process in said step of forming
5 said magnetic recording element and said first conductor and including an edge parallel to said first direction.

9. The method of manufacturing a magnetic recording element according to claim 6, further comprising the step of:

10 manufacturing a second conductor which is connected to said magnetic recording element on an opposite side to said first conductor relative to said magnetic recording element, wherein

said second conductor is also shaped by performing said photolithographic process using said same mask in said step of forming said magnetic recording element
15 and said first conductor.

10. The method of manufacturing a magnetic recording element according to claim 7, wherein

exposure processes are performed on one photoresist using said first mask and
20 said second mask, respectively.

11. The method of manufacturing a magnetic storage element according to claim 8, wherein

exposure processes are performed on one photoresist using said first mask and
25 said second mask, respectively.